IN THE CLAIMS:

A complete listing of the claims is set forth below. Please amend the claims as follows:

1.   **(Currently Amended)** A computer-implemented method for demand breakout for a supply chain, comprising:

accessing, by a ~~server~~ computer, a plurality of orders for at least one product, each product produced using at least one precursor;

accessing, by ~~a server~~ the computer, a production schedule identifying one or more resources in the supply chain, a quantity of each product and precursor scheduled to be produced by the one or more resources, and a time period associated with production of each product and precursor;

identifying, by ~~a server~~ the computer, one or more particular units of the product that correspond to each product order; and

identifying, by ~~a server~~ the computer, one or more particular units of one or more precursors that correspond to each product order.

2.   **(Previously Presented)** The method of Claim 1, wherein identifying the one or more particular units of the one or more precursors comprises generating a first event for each product order, the first event comprising a request for a specified quantity of a specified item.

3.   **(Previously Presented)** The method of Claim 2, further comprising executing the first event to generate at least one second event comprising a reservation of a specified quantity of a specified precursor used to produce the item requested by the first event.

4.   **(Previously Presented)** The method of Claim 3, wherein the second event is associated with a flow that represents at least the specified quantity of the specified precursor arriving at one of the one or more resources.

5.   **(Previously Presented)** The method of Claim 2, wherein:

a plurality of flows representing at least one precursor are associated with the one or more resources; and

the method further comprises:

determining a specified quantity of a specified precursor using the first event;

identifying one or more of the flows that represent the specified precursor; and

generating at least one second event associated with at least one of the identified flows.

6.   **(Original)** The method of Claim 5, wherein generating at least one second event comprises:

generating a single second event associated with one flow if that flow represents at least the specified quantity of the specified precursor; and

generating a plurality of second events associated with a plurality of flows if none of the flows represent at least the specified quantity of the specified precursor.

7.   **(Previously Presented)** The method of Claim 2, wherein:

at least one of the precursors needed to produce the item requested by the first event is too scarce to produce the specified quantity of the specified item; and

the method further comprises:

identifying the precursor that is most scarce using a bill of materials table;

determining a fractional quantity of the specified item that can be produced using the most scarce precursor; and

determining a fractional quantity of each precursor needed to produce the fractional quantity of the specified item.

8.	**(Previously Presented)** The method of Claim 7, wherein:

the specified item may be produced according to a plurality of bill of materials tables; and

the method further comprises identifying the bill of materials table that results in the production of the largest quantity of the specified item.

9.	**(Previously Presented)** The method of Claim 2, wherein:

the first events comprise a first layer of a tree; and

the method further comprises:

executing the first events to generate at least one second event; and

executing the second event to generate at least one additional first event in a second layer of the tree.

10.	**(Original)** The method of Claim 9, wherein the first and second events may be propagated through the layers of the tree to allocate one or more particular units of one or more precursors to the product orders.

11.	**(Previously Presented)** The method of Claim 2, further comprising:

ranking the first events; and

executing the first events according to their rank.

12.   **(Original)** The method of Claim 11, wherein ranking the first events comprises:

generating a weighted average for each of the first events, each first event associated with a plurality of attributes and an attribute value corresponding to each attribute, each attribute associated with a weight, the weighted average based on the attribute values and the attribute weights; and

ordering the first events by decreasing weighted average.

13-22. **(Canceled)**

23. **(Currently Amended)** A computer-implemented method for demand breakout for a supply chain, comprising:

accessing, by a ~~server~~ computer, a plurality of orders for at least one product each product produced using at least one precursor;

accessing, by a ~~server~~ the computer, a production schedule identifying one or more resources in the supply chain, a quantity of each product and precursor scheduled to be produced by the one or more resources, and a time period associated with production of each product and precursor;

generating, by a ~~server~~ the computer, a first event for each product order, the first event comprising a request for a specified quantity of a specified item, the first events forming a first layer in a tree;

generating, by a ~~server~~ the computer, a weighted average for each of the first events, each first event associated with a plurality of attributes and an attribute value corresponding to each attribute, each attribute associated with a weight, the weighted average based on the attribute values and the attribute weights;

executing, by a ~~server~~ the computer, the first events in order of decreasing weighted average by:

determining a specified quantity of one or more specified precursors needed to produce the specified quantity of the item requested by the first event;

determining if at least one of the precursors needed to produce the item requested by the first event is too scarce to produce the specified quantity of the item;

determining a fractional quantity of each specified precursor if at least one of the precursors is too scarce; and

generating at least one second event for each of the specified precursors, the second event comprising a reservation of one of the specified quantity of the specified precursor or the fractional quantity of the specified precursor;

executing, by a ~~server~~ the computer, the second events to produce one or more additional first events in a second layer of the tree; and

propagating, by ~~a server~~ <u>the computer,</u> the first and second events through any additional layers of the tree to allocate one or more particular units of one or more precursors to each product order.

24.   **(Canceled)**

25. **(Withdrawn)** Software for performing demand breakout for a supply chain, the software embodied in a computer-readable storage medium which, when executed by a computer is operable to:

access a plurality of orders for at least one product, each product produced using at least one precursor;

access a production schedule identifying one or more resources in the supply chain, a quantity of each product and precursor scheduled to be produced by the one or more resources, and a time period associated with production of each product and precursor;

identify one or more particular units of the product that correspond to each product order; and

identify one or more particular units of one or more precursors that correspond to each product order.

26. **(Withdrawn)** The software of Claim 25, wherein identifying the one or more particular units of the one or more precursors comprises generating a first event for each product order, the first event comprising a request for a specified quantity of a specified item.

27. **(Withdrawn)** The software of Claim 26, further operable to execute the first event to generate at least one second event comprising a reservation of a specified quantity of a specified precursor used to produce the item requested by the first event.

28. **(Withdrawn)** The software of Claim 27, wherein the second event is associated with a flow that represents at least the specified quantity of the specified precursor arriving at one of the one or more resources.

29. **(Withdrawn)** The software of Claim 26, wherein:

a plurality of flows representing at least one precursor are associated with the one or more resources; and

the software is further operable to:

determine a specified quantity of a specified precursor using the first event;

identify one or more of the flows that represent the specified precursor; and

generate at least one second event associated with at least one of the identified flows.

30. **(Withdrawn)** The software of Claim 29, wherein generating at least one second event comprises:

generating a single second event associated with one flow if that flow represents at least the specified quantity of the specified precursor; and

generating a plurality of second events associated with a plurality of flows if none of the flows represent at least the specified quantity of the specified precursor.

31. **(Withdrawn)** The software of Claim 26, wherein:

at least one of the precursors needed to produce the item requested by the first event is too scarce to produce the specified quantity of the specified item; and

the software is further operable to:

identify the precursor that is most scarce using a bill of materials table;

determine a fractional quantity of the specified item that can be produced using the most scarce precursor; and

determine a fractional quantity of each precursor needed to produce the fractional quantity of the specified item.

32. **(Withdrawn)** The software of Claim 31, wherein:

the specified item may be produced according to a plurality of bill of materials tables; and

the software is further operable to identify the bill of materials table that results in the production of the largest quantity of the specified item.

33. **(Withdrawn)** The software of Claim 26, wherein:

the first events comprise a first layer of a tree; and

the software is further operable to:

>execute the first events to generate at least one second event; and

>execute the second event to generate at least one additional first event in a second layer of the tree.

34. **(Withdrawn)** The software of Claim 33, wherein the first and second events may be propagated through the layers of the tree to allocate one or more particular units of one or more precursors to the product orders.

35. **(Withdrawn)** The software of Claim 26, further operable to:

rank the first events; and

execute the first events according to their rank.

36.   **(Withdrawn)** The software of Claim 35, wherein ranking the first events comprises:

generating a weighted average for each of the first events, each first event associated with a plurality of attributes and an attribute value corresponding to each attribute, each attribute associated with a weight, the weighted average based on the attribute values and the attribute weights; and

ordering the first events by decreasing weighted average.